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### **Gradia Direct Microfilled Hybrid Resin Composite (Project 03-27) (07/04)**

Gradia Direct is a new composite resin by GC America. The visible-light-cured microfilled hybrid is available in an anterior and posterior version. Both versions reportedly contain silica and pre-polymerized fillers (avg. particle size 0.85 microns) in a urethane dimethacrylate co-monomer matrix. The posterior version also contains fluoro-alumino-silicate glass and is radiopaque. Twenty-six shades are available in standard and "special" shades (i.e., opaque, translucent). The anterior version comes with 11 standard, 3 opaque, and 6 translucent shades. The posterior version includes 4 standard and 2 translucent shades. Special shades are placed underneath or on top of the standard shades for more extensive multi-shade techniques. The non-sticky composite, the company claims, provides high fracture toughness and wear resistance while enhancing polishability. Gradia Direct is available in unitips or syringes.



#### **Manufacturer:**

GC America  
3737 W. 127<sup>th</sup> Street  
Alsip, IL 60803  
(800) 323-7063  
(708) 597-0900  
(708) 371-5103 FAX  
[www.gcamerica.com](http://www.gcamerica.com)

#### **Suggested Retail Price:**

\$366.00 Complete Kit (item no. 423001) contains:

- 106 unitips in 26 anterior and posterior shades
- shade guide
- applicator

#### **Government Price:**

\$220.00 Complete Kit (item number and contents as listed above)

#### **ADVANTAGES:**

- + Inexpensive refills
- + Handles well
- + Relatively low polymerization shrinkage
- + 26 shades available in multiple opacities
- + Excellent polishability and overall esthetics
- + Relatively non-sticky
- + Shade printed on individual capsules
- + Storage conditions printed on box

#### **DISADVANTAGES:**

- Posterior shade [less radiopaque](#) than enamel
- Relatively low [hardness](#) and [strength](#)
- Large storage box
- Lot number and expiration date not printed on individual capsules
- Material Safety Data Sheet (MSDS) not provided with kit

## SUMMARY AND CONCLUSIONS:

Gradia Direct, a new microfilled hybrid composite resin, was rated highly for polishability, esthetics, and shade matching by clinical evaluators. The Complete Kit comes with 106 unitips in 26 anterior and posterior shades in various opacities. However, several evaluators found the kit to be large and bulky. The government price per gram of refill composite is among the lowest of many composite resins recently evaluated by DIS. Laboratory testing found the hardness, diametral tensile strength, and flexural strength values of Gradia Direct to be among the lowest of recently tested composites. The degree of radiopacity of the posterior shades was much less than enamel, which may make it more difficult to differentiate Gradia Direct from tooth structure. All of the evaluators rated the composite resin as “excellent” or “good” and would consider its purchase for their clinic. **Gradia Direct** is rated **Acceptable** for use by the federal dental services.



